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EXPLANATION OF DIAGRAM.

Anas., anastomotic ramus from first myelic nerve ; this is the disputed origin of the N. cervico-hypoglossus. Ang., the angle where the N. hypoglossus bends around the A. occipitalis. Ca., caudal ramus. Ce., cephalic ramus. Communicans, a myelic accession, the communicans noni. Crv., myelic nerves. Gen-Hyoid, the genio-hyoid muscle. Ge-Hy-Gl., the genio-hyo-glossal muscle. Hyoglossus, the hyo-glossal muscle. Inf., the ramus to the G. inferius of the N. vagus. Lingualis, the lingual nerve of the mandibular division of the N. trigeminus. Om-Hy., the M. omo-hyoideus. Pl. car., anastomotic filament to the carotid plexus. Pl. gang., the plexus gangliiformis. Sty-Gloss., the stylo-glossus muscle. St-Thy., the M. sterno-thyroideus. Thy-Hy., the M. thyro-hyoideus.

Aboriginal Pottery of the Middle Atlantic States.

By Francis Jordan, Jr.

(Read before the American Philosophical Society, March 2, 1888.)

In the whole range of archæology there are few subjects deserving of more thoughtful consideration, or that possess so many instructive and entertaining features as the study of ceramic art as practiced by primitive man. Its development is contemporary with the progress of civilization, and dates from the earliest period of antiquity, beginning with the manufacture of earthenware of the rudest description, exclusively for culinary purposes, from materials that were too obvious even for the semi-barbarian to overlook. The brief paper I have the pleasure of offering for your consideration is restricted to a discussion of but one of the many branches of this interesting study, namely, the characteristic features of the prehistoric pottery of the Middle Atlantic States, of North America, and the conditions under which it has been recovered.

In its fabrication as in all the departments of aboriginal domestic labor, the work was performed by women, who gave to these rude vessels whatever claim to artistic merit they possess, of which the relics of the mound-builders of the Mississippi valley furnish the best examples.

In form, in decoration, and in the use of pigments, and in their construction, these specimens rank with the early productions of the potters of the old world, a superiority that was doubtless the result of contact with the advanced civilization of the Pacific Coast, and a reproduction of its ceramic forms. The pottery of the Atlantic seaboard is more primitive in its character, and denotes, both in design and decoration, a more remote antiquity, a claim, however, that cannot be established if we accept Indian tradition as authority for the belief that the influx of emigration was from

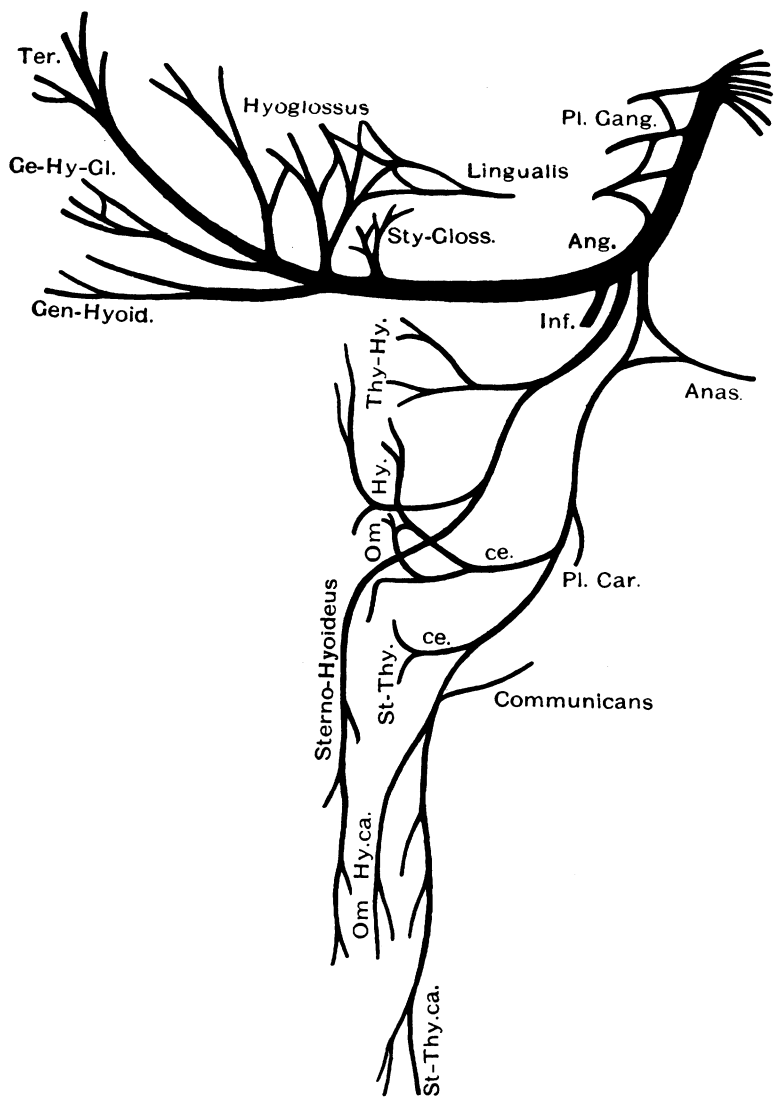


Diagram of the Hypoglossal Nerve.—Stowell.

the West. But it is hardly within the scope of this brief paper to enter into a discussion of the comparative ages of the pottery of the two sections. In view of the very limited number of perfect specimens which have their origin in the Middle Atlantic States, a thoroughly satisfactory treatise of the earthenware of that locality, omitting all other considerations, is hardly within the realm of possibility.

It may surprise those unacquainted with the data, to learn that the entire number of unbroken vessels will not exceed twenty-five, and of these the largest proportion, as well as the most remarkable, was found in Pennsylvania. On the other hand, many hundreds of the most valuable specimens have been recovered in perfect condition from the ancient earthworks and sepulchral mounds in the district beyond the Alleghanies. In some instances these tumuli are of vast proportions, but in the absence of sufficient evidence on which to form anything like an accurate opinion, their antiquity must remain a matter of conjecture. With their identity established, and with the knowledge that the American Indians, following a custom almost universal among semi-barbarous nations, deposited articles of earthenware with the dead, these ancient tombs may be explored without subjecting their contents to accidental destruction.

In the Middle Atlantic States, however, where this mode of sepulture rarely obtained, and where an Indian grave has no visible existence, its discovery is usually one of chance, and then almost invariably made by the plough, a medium very apt to efface all traces of its prehistoric character.

Incredible as it may appear, I am informed by Dr. Charles Rau that the National Museum, at Washington, within two years did not contain a single perfect specimen from the Eastern and Middle States in its archaeological collection. In 1878 Prof. E. Hitchcock, of Amherst, Mass., sent to the National Museum colored plaster casts of three clay vessels found in New England. The most remarkable of them is figured in Vol. v, page 14, of the *American Naturalist*. This vessel, together with the largest of the three sent, is in the collection of the University of Vermont, at Burlington. The original of the third cast is in the possession of Mr. George Sheldon, Deerfield, Mass., who found it in the lot adjoining his home. "I know of but one other vessel of this nature," says Prof. Hitchcock, "ever found whole in New England. This is in the hands of Dr. S. A. Green, of Boston." The pottery of New Jersey possesses no distinctive features, if we are to be guided by the two or three unbroken vessels that have been uncovered within her borders. Dr. Abbott figures but one in his "Stone Age" of that State.

Delaware is even more disappointing, as she has thus far failed to contribute a single specimen to aid us in our comparative examination. On the banks of nearly all her water-courses are to be seen refuse shell deposits, many of them of considerable size, and all of great age, indicating a population more dense than any of her sister States. Mingled with the remains of these deserted villages are large quantities of broken pottery, but the fragments are those of coarse and generally undecorated pots that have

succumbed to hard usage, and in that condition consigned to the refuse heap. An unbroken specimen has never been found, and of the sherds, the largest that I have seen was the base of a pot unearthed near Felton, where I found it serving the purposes of a soap dish. Extreme plainness characterized the pottery of this State. In capacity they were scarcely more than quart pots, shaped like the gourd, with decorations of the simplest description, of which the most elaborate were those having incised parallel lines encircling the rim.

It is gratifying to be able to say that it has been reserved for Pennsylvania to furnish the best examples of this ancient industry. The Wyoming Historical and Geological Society, of Wilkesbarre, with commendable zeal, under the enthusiastic direction of the late Harrison Wright, succeeded in locating several Indian graves in Luzerne county, from which were exhumed nine very remarkable perfect specimens. These have been carefully described and figured in the Proceedings of that society, and hence it is only necessary to note the fact that although they were all found within a radius of twenty miles, there are no two identical in shape, and each has a different ornamentation.

Two more from the same State have been deposited in the museum of the Historical Society of Pennsylvania, very similar in form and decoration to those found near Wilkesbarre, which, with another discovered in the mountains near Summit Hill, constitute a distinct, and what I shall call the Pennsylvania variety, of which the high square decorated mouth is a prominent characteristic. These pots were made to contain from a half to one gallon, and are very much larger, as they are also the most beautiful of the mortuary pottery heretofore described.

In construction, design and decoration, very marked differences distinguish the specimens from the States under discussion, and in considering this part of the subject it is necessary to treat first the large undecorated vessels, evidently intended to withstand rough handling, of which the clay is thick—from a half to one inch—and the materials coarse. In appearance this class has a strong resemblance to our modern earthenware, but is heavier and apparently stronger, though actual test may disprove this latter quality. In the other grade we cannot fail to notice a delicacy of construction that pertains alone to the higher class of Indian pottery, upon which patient labor has been expended, producing a highly decorated and carefully finished vessel. Fine sand has been substituted for coarse clay, and the large particles of pounded shell or quartz, which are a conspicuous feature of the rude pots, have been eliminated: the whole showing a more careful preparation.

Of the designs in general it may be said that they occur in an almost endless variety, which in itself is a conceded merit, and one that the potters of the old world did not possess in a greater degree. The difficulties attending the execution of some of the forms is astonishing when we consider that they were made solely for purposes of utility. The prevailing shape was that of the gourd, and like it terminated in a

convex base, which required suspension when in use, for which ears projecting from the rim were provided; and where these did not exist the pot had to be supported when resting upon the earth. I am not aware of the existence of any vessel from this locality having a flat bottom.

In the rude and heavy vessels no deviation was made from the plain lines of the gourd, but in the finer examples the monotony of this form was relieved by flaring or contracting the lips, and in constructing double shoulders.

In some instances the inside, as well as the exterior, was colored a bright red, as if to conceal the inequalities of their rough surfaces, but there is no record of the discovery within the district under consideration of a pot ornamented with colored designs.

Nor are there specimens, so far as I can learn, from the Middle and New England States of bottle-shaped or long necked vases, so frequently met with among the mound relics, and in some sections of the South; and no attempt was made to imitate the human form, or that of birds and animals. The nearest approach thereto, as I have learned from Dr. Rau, are little grotesque human heads or masks stuck on the outside of the vessels below the corners of the rims. A number of fragments thus decorated, which were collected in the State of New York by Mr. F. H. Cushing, are in the National Museum at Washington.

When we consider the difficulties under which these ancient potters wrought their crude materials, the absence of mechanical appliances (unaided by the potter's wheel), their complete ignorance of the first rudiments of artistic knowledge, following only such lines as fancy dictated, we cannot but express amazement at the accuracy of the workmanship and the originality, if not the beauty, of the designs.

It was not the beauty of the trained Grecian or Etruscan schools, but the naturally developed taste of the aboriginee, who sought nature for her models, and found them in the gourd and melon.

Description of Datames magna Hancock. By Joseph L. Hancock.

(Read before the American Philosophical Society, April 15, 1887.)

Length 46 mm. (including mandibles); abdomen $24\frac{1}{2}$ mm.; thorax 4 mm.; head 7 mm. Breadth, abdomen 9 mm.; head $10\frac{1}{2}$ mm.; jaws $10\frac{1}{2}$ mm.

Color pale reddish yellowish white, more reddish on head, falces and tips of last joints of legs; paler on abdomen, legs and labial palpi. Last joint (tarsus) of maxillary palpi and longitudinal marking under surface of tibia of the same member, deep brownish-black, fingers of mandibles burnished chestnut-brown, becoming black at points; margin of bristly hairs surrounding base of fingers, reddish-brown.

Cephalic Shield convexed, broader than long, anterior margin nearly straight, outer fourth sloping obliquely outwards and backwards to pos-